

SEQUENCE LISTING

<110> Patterson, Stacey
Saylor, Gary S.
Dionisi, Hebe
Gupta, Rakesh

<120> MODIFIED LUCIFERASE NUCLEIC ACIDS AND METHODS OF USE

<130> 6704-30

<160> 4

<170> PatentIn version 3.2

<210> 1

<211> 1084

<212> DNA

<213> Artificial

<220>

<223> Synthetic Gene

<400> 1

```
atgaagttcg gcaacttcct gtcacatat cagcctcccc agttttccca aaccgaggtc   60
atgaagcggc tggtaagct cggccgcac tcgaggagt gcggtttcga caccgtgtgg   120
ctgctggagc accacttcac cgagttcggc ctgcttgga acccttatgt cgctgctgt   180
tatctgctcg gcgccaccaa gaaactgaac gtcggcactg ccgctatcgt tctccccacc   240
ggcccatcca gtccgccagc ttgaggacgt gaacttgctg gatcaaatgt ccaaggggcg   300
ctttcggttc ggcactgcc gcgggcttta caacaaggac ttccgcgtgt tcggcaccga   360
catgaacaac agccgcgccc tggccgagtg ttggtacggg ctgatcaaga atggcatgac   420
cgaggggatac atggaagccg acaatgagca catcaagttc cacaaagtca aagtgaaccc   480
cgccgcttac agcagaggtg gcgctcctgt ttatgtggtg gctgagtcag ctagtaccac   540
tgagtgggct gctcaatttg gctccctat gatcctgtcc tggatcatca acactaatga   600
gaagaaggcc cagctcgagc ttacaacga agtggctcaa gactacgggc acgacattca   660
taacatcgac cactgcctgt cctacatcac ctccgtggac cagactcca tcaaggccaa   720
ggagatttgc cggaagtttc tcgggcattg gtatgatagc tacgtgaatg ctaccactat   780
```

ctttgacgac tccgaccaga ccagaggta cgactcaac aaggggcagt ggcgcgattt 840
 cgtgttga aa ggacacaagg atactaacag acgcatcgac tacagctacg agatcaatcc 900
 cgtgggcacc cctcaggagt gcattgacat catccaaaag gacattgatg ctaccggaat 960
 ctccaacatc tgttgtggat ttgaggctaa cggaaccgtg gacgagatca tcgcttccat 1020
 gaagctcttc cagtccgatg tcatgccatt cctcaaggag aagcaacgca gcctcctgta 1080
 ctag 1084

<210> 2
 <211> 984
 <212> DNA
 <213> Artificial

<220>
 <223> Synthetic Gene

<400> 2
 atgaagttcg gactgttctt ccttaacttc atcaactcca cactgtgca ggagcaaagc 60
 atcgtgcgca tgcaggagat caccgagtat gtggacaagc tgaacttca gcagatcctg 120
 gtgtacgaga accacttttc cgacaatggc gttgtcggcg ctctctgac tgtgtccggc 180
 ttctgtctcg gcctgaccga gaagatcaaa attggctccc tgaaccacat catcaccact 240
 catcatcctg tcgccatcgc tgaggaggct tgctgtctgg atcagctgag cgaggggaga 300
 ttcatcctgg ggttcagcga ttgcgagaag aaggacgaga tgcactttt caaccgcctt 360
 gtggaatata agcagcaact gttgaagag tgctacgaga tcattaacga cgctctgacc 420
 accggctact gcaaccccgga caatgacttc tacagcttcc ctaaaatctc cgtaaccccc 480
 cacgcttaca cccagggcgg cctcggaag tatgtcacg ctaccagtca tcacatcgtg 540
 gagtgggctg ccaagaaagg catccctctc atctttaagt gggatgactc caacgacgtg 600
 agatacgagt acgctgagag atacaaggcc gtggctgaca aatatgacgt tgacctgtcc 660
 gaaatcgacc accagctgat gatcctgggt aactacaacg aagacagcaa caaggctaag 720
 caggagaccc gcgccttcat tagcgactac gtgcttgaaa tgcaccctaa cgagaacttc 780
 gagaacaagc ttgaggaaat catcgccgag aacgctgtcg gaaactacac cgagtgtatc 840

actgctgcta agctggccat cgagaagtc ggtgctaaga gtgcctgct gtccttgag 900
 ccaatgaatg acctgatgag ccaaaagaac gtcataca ttgtggacga caatattaag 960
 aagtaccaca tggagtacac ctaa 984

<210> 3
 <211> 1084
 <212> DNA
 <213> Photorhabdus luminescens

<400> 3
 atgaaattg gaaactttt gcttacatac caacctccc aattttctca aacagagga 60
 atgaaacgtt tggtaaatt aggtcgcatc tctgaggagt gtggtttga taccgatgg 120
 ttactggagc atcatttcac ggagtttgg ttgcttgga acccttatgt cgctgctga 180
 tatttacttg gcgcgactaa aaaattgaat gtaggaactg ccgctattgt tcttcccaca 240
 ggcccatcca gtacgccaac ttgaagatgt gaattattg gatcaaatgt caaaaggacg 300
 atttcggtt ggtattgcc gagggcttta caacaaggac ttccgctat tcggcacaga 360
 tatgaataac agtcgcgcct tagcggaatg ctggtacggg ctgataaaga atggcatgac 420
 agagggatat atggaagctg ataataaaca tatcaagttc cataaggtaa aagtaaacc 480
 cgcggcgtat agcagagggt gcgcaccggt ttatgtggtg gctgaatcag ctcgacgac 540
 tgagtgggct gctcaattg gcctaccgat gatattaagt tggattataa atactaacga 600
 aaagaaagca caactgagc ttataatga agtggctcaa gaatatgggc acgatattca 660
 taatatcgac cattgcttat catatataac atctgtagat catgactcaa taaagcgaa 720
 agagatttgc cggaaatttc tggggcattg gtagtattct tatgtgaatg ctacgactat 780
 tttgatgat tcagaccaa caagagggtta tgattcaat aaagggcagt ggcgtgactt 840
 tgattaaaa ggacataaag atactaatcg ccgtattgat tacagttacg aatcaatcc 900
 cgtgggaacg ccgcaggaat gtattgacat aattcaaaaa gacattgatg ctacaggaat 960
 atcaaatatt tgtgtggat ttgaagctaa tggaacagta gacgaaatta ttgcttccat 1020
 gaagctcttc cagtctgatg tcatgccatt tcttaaagaa aaacaacgtt cgctattata 1080
 ttag 1084

<210> 4
<211> 984
<212> DNA
<213> Photorhabdus luminescens

<400> 4
atgaaattg gattgttctt ccttaacttc atcaattcaa caactgttca agaacaaagt 60
atagttcgca tgcaggaaat aacggagtat gttgataagt tgaatttga acagatttta 120
gtgtatgaaa atcattttc agataatggt gttgtcggcg ctctctgac tgtttctggt 180
tttctgctcg gtttaacaga gaaaattaaa attggttcat taaatcacat cattacaact 240
catcatcctg tcgcatagc ggaggaagct tgcttattgg atcagttaag tgaagggaga 300
tttattttag ggtttagtga ttgcgaaaaa aaagatgaaa tgcattttt taatcgcccg 360
gttgaatatc aacagcaact attgaagag tgttatgaaa tcattaacga tgctttaaca 420
acaggctatt gtaatccaga taacgatttt tatagcttcc ctaaaatc tgtaaattccc 480
catgcttata cgccaggcgg acctcggaat tatgtaacag caaccagtca tcatattgtt 540
gagtgggagg ccaaaaaagg tattctctc atctttaagt gggatgattc taatgatgtt 600
agatatgaat atgctgaaag atataaagcc gttgcggata aatatgacgt tgacctatca 660
gagatagacc atcagttaat gatattagtt aactataacg aagatagtaa taaagctaaa 720
caagagacgc gtgcatttat tagtgattat gttcttgaaa tgcaccctaa tgaaaatttc 780
gaaaataaac ttgaagaaat aattgcagaa aacgctgtcg gaaattatac ggagtgtata 840
actgcggcta agtiggcaat tgaaaagtgt ggtgcgaaaa gtgtattgct gtcctttgaa 900
ccaatgaatg atttgatgag ccaaaaaaat gtaatcaata ttgtgatga taatattaag 960
aagtaccaca tggaatatac ctaa 984